ROSEDALE MINES and RAILWAY

By
R. H. HAYES & J. G. RUTTER

SCARBOROUGH ARCHAEOLOGICAL
AND HISTORICAL SOCIETY
RESEARCH REPORT No. 9

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PREFATORY NOTE

In 1968 we published a concise account of the history of the Rosedale ironstone mines and railway in the *Transactions of the Scarborough Archaeological and Historical Society*. Owing to the great demand for copies of this paper we have been encouraged to republish in a form suitable for inclusion in the society's *Research Report* series. The text has been expanded and a considerable number of photographs and plans have been added.

The earliest photographs (*circa* 1890 to 1910) are by T. W. Brotton (who worked at the weighhouse at Ingleby Incline Foot) and T. Page (of Rosedale). Later photographs are by W. Hayes (of Hutton-le-Hole) and his son (one of the authors). The map and plans are by the authors. Published sources of information are to be found under "References and Notes". We are also indebted to the late Mr Wm. Champion and the late Mr Wm. Swales, and to Messrs A. Champion, B. Frank, F. Spenceley, F. W. Featherstone, K. Hoole and members of the Rosedale W. E. A. Class of 1964-65 for additional valuable information.

R.H.H. & J.G.R.

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PART I. THE ROSEDALE MINES

Rosedale is a deep valley extending nearly eight miles from immediately south of the main east-west watershed of the North York Moors. The River Seven flows through the dale from its source at Rosedale Head to join the River Rye in the Vale of Pickering. Today this isolated valley with its single village of Rosedale Abbey depends on farming, forestry and the summer visitor for its livelihood, but for a limited period in the 19th century it was the scene of a flourishing mining industry. So valuable was the ironstone of Rosedale that nearly twenty miles of standard gauge railway were built to transport this mineral wealth over the highest part of the North York Moors to the ironworks of County Durham. Although Part I of this paper is largely devoted to the ironstone mines of Rosedale, a brief record of the other mines and quarries in and around the valley has been added.

MEDIEVAL IRONSTONE WORKING

Iron ore occurs throughout the Jurassic rocks of north-east Yorkshire, including the following strata which have been worked in the areas named:-

Kellaway Rock		Danby Moor
Cornbrash		Newton Dale, Ryedale
Upper Estuarine Series		Fylingdales Moor
Grey Limestone		Goathland Moor
Ellerbeck Bed		Ingleby Greenhow, Egton, Beckhole
The Dogger (Top Seam)		Rosedale, Kildale, Beckhole
Ironstone Series of the Middle Lias	Main Seam	N. Cleveland
	Pecten Seam	N. Cleveland, Grosmont, Eskdaleside
	Two-foot Seam	Skelton
	Avicula Seam	Grosmont, Eskdaleside

The above list is not exhaustive. Many of the beds worked in earlier periods were thin and of poor quality and in the 19th century only those of the Middle Lias and Dogger proved of great importance.[1]

We have no evidence of iron working in Rosedale earlier than Medieval times, but there is an abundance of iron-slag at Spaunton and other Romano-British sites in the Ryedale area and it is reasonable to suppose that the source of the ore was the outcrops in Rosedale a few miles to the north. From the excavations undertaken by the Scarborough & District Archaeological Society in 1964/65 on Levisham Moor we now know that iron-smelting took place in north-east Yorkshire in the latter part of the Early Iron Age.[2]

In the Medieval period there was a Cistercian nunnery at Rosedale but there is no indication of monastic iron-working. Such working appears to have been undertaken by laymen. In 1209 there was a Royal confirmation of the gift of land in Rosedale, including the meadow Baggethwaite, by Robert de Stuteville to the nunnery. Baggethwaite may be the water-meadows to the south of the village now called the Alders. A confirmation of 1327/28 repeats the Stuteville grant but excepts a forge in Baggethwaite, from which it can be assumed that laymen were engaged in iron-working in Rosedale at that date.[3]

The Abbot of St. Mary's Abbey, York, possessed extensive properties in this neighbourhood, chiefly between the rivers Seven and Dove. In 1339 the Abbot granted a lease to John, son of Richard the Chief 'Smytheman', the right to occupy a plot of land in the abbot's forest of Rosedale in order to seek for and smelt iron ore within the abbot's desmesne. He was also allowed to obtain fuel for his furnace from the abbot's wood. John undertook in return to deliver sixteen stones of iron each week to the abbot's servant at Spaunton from the time when he began to smelt the iron-stone until the following Christmas. However, if he should find iron ore within the abbot's property before Christmas then John would deliver eighteen stones a week. This implies that iron working was already established in the area when the indenture was signed on the 18th August 1339, probably under the control of John's father, the Chief Smithman.[4]

The actual site of the medieval iron works at Rosedale has not been definitely located, but Mr Arthur Champion at Castleton states that his father and uncle told him that when the Lecture Hall at Rosedale Abbey was being built in 1873 iron slag and charcoal were found on the site in quantity. This position adjacent to the nunnery agrees closely with the evidence of the charters.

Medieval bloomeries have been discovered in neighbouring dales, notably the example above Postgate Farm, Glaisdale, which was excavated by the late Mr George Harland of Glaisdale in 1963. This was built in an oval hollow, partly rock-cut and partly stone-lined, measuring 8ft long, 3ft wide and 3½ft deep. A mass of ironstone and slag was embedded in the base. The site was situated high up on the valley side, over 700 ft above sea level and had only just escaped destruction from 19th century ironstone workings. Sherds of the 13th or 14th century were found associated and it is probable that the Postgate furnace was worked by Guisborough Priory which is known to have had 'forges' in this neighbourhood in the 13th century.[5]

The fuel used in Medieval furnaces was mainly charcoal, of which that obtained from oak was preferred. Although the moorland dales were originally densely wooded the production of charcoal made heavy inroads and lack of suitable timber may well have contributed to the decline of the industry for at the end of the 18th century it was stated that 'The only place on these moors where any iron is now forged, is at Ayton, near Hackness'.[6] This site in Forge Valley was also in decline and became disused by 1811.[7] One reason given for the abandonment of the Ayton Forge was the want of a navigable canal and the greater transport difficulties experienced in the remoter valleys such as Rosedale must have been a further important factor in the decay of the earlier ironstone industry in north-east Yorkshire.

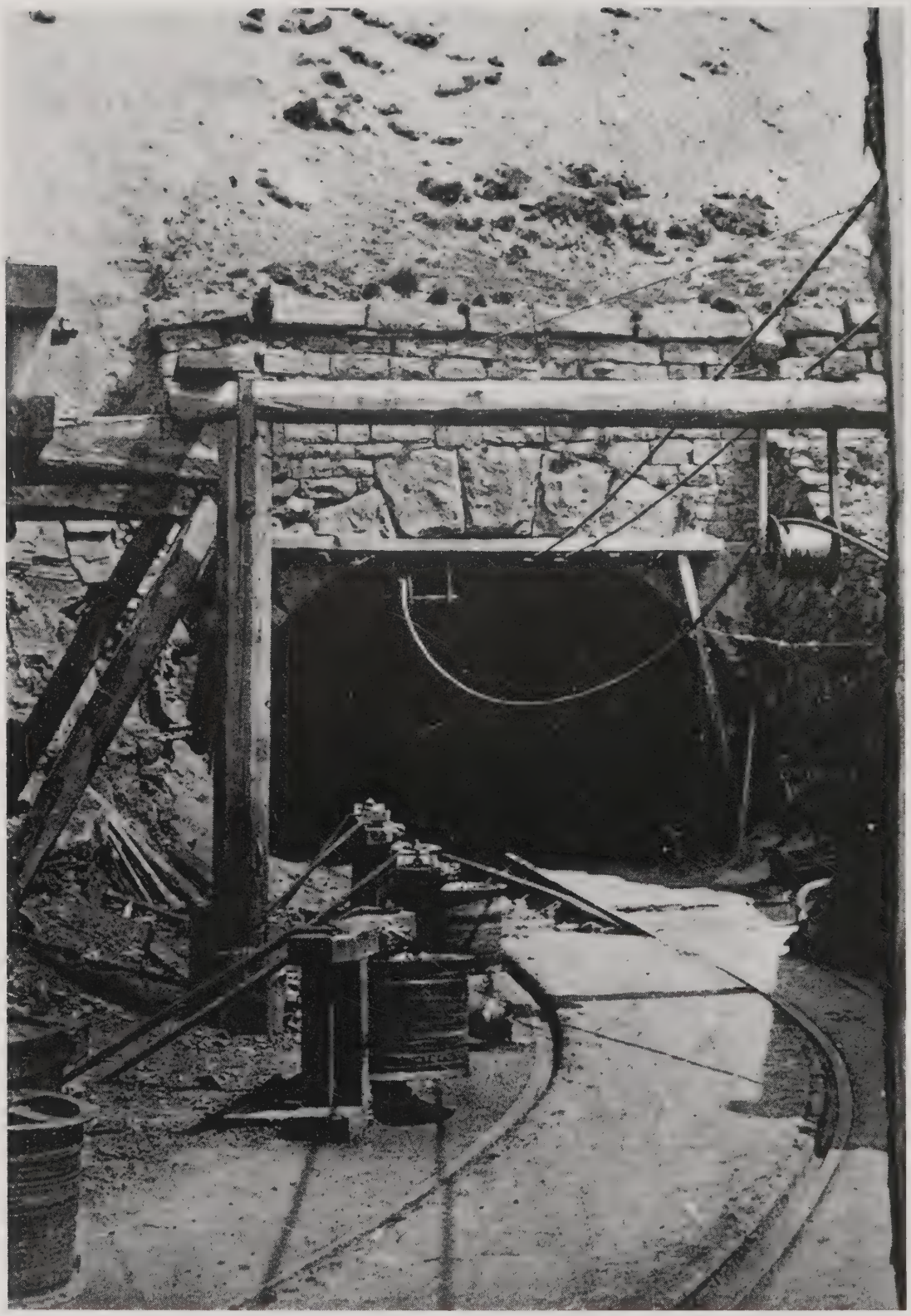
I *Rosedale Chimney*
The engine-house chimney of the West Mines incline tramway. Demolished 1972. Railway reservoir in foreground.

II *Sheriff's Pit*
Pithead with manager's house (left) and workshops (centre) before closure of pit in 1911.

III *Miners at a drift entrance above Thorgill. One of these drifts extended to the foot of Sheriff's Pit. Photograph taken* circa *1900.*

IV *Remains of stone-lined tramway cutting outside the drift entrances above Thorgill in 1967.*

V *General view of the East Mines* circa *1925*.



VI *East Mines; drift entrance near "Old Kilns"*, circa *1900*.

WEST MINES (LOW WORKS OR HOLLINS MINES), ROSEDALE WEST (SE729945)

The modern working of ironstone in Rosedale began in the dale-side near Hollins Farm, one mile south of Rosedale Abbey in 1856 when a lease was given by Thomas Garbutt to George Leeman (deputy chairman of the North Eastern Railway), Isaac Hartas (ironfounder of Wrelton)[8] and Alexander Clunes Sheriff (traffic manager of N.E.R.). Samples of ore from this quarry were soon found to be of very high quality for in the following year it was stated that Rosedale 'has lately sprung into notice through discovery of an extensive deposit of ironstone of unusual thickness; the ore is highly magnetic, and yields a high percentage of metal . . . the vein is about 18 feet in thickness and is easily worked by drifting'[9] It was also described as the richest ore in North Yorkshire, "a perfect nugget of ironstone on a bare hillside 700 ft. above the level of the sea". Before it was quarried the outcrop stood out as a conspicuous cliff. There was a tradition that during thunderstorms lightning frequently struck the cliff and local people spoke of treasure or the devil buried in the hillside. However, this did not prevent the deposit being used as a quarry for roadstone for years before its true value was discovered.[10] In 1859 a sixty years lease of 8000 acres was granted to the above-mentioned partners by Henry Brewster Darley, a royalty of 6d per ton being payable to the latter. The partners formed the Rosedale Mining Company. During the first few years three to four thousand tons of ore were taken by horse-drawn wagons to Pickering and then carried by rail via Malton and Pilmoor to various ironworks, including the Derwent Works, Consett.

In March 1856 it was stated that "Rosedale is a scene of activity and bustle from iron-ore traffic". Transport by road to Pickering met with difficulties as the road from Cropton Bridge to Hartoft Bridge was "a complete bog from end to end; full of clay holes 2 ft deep" and the rest of the road to Rosedale was even worse!

By the time the N.E.R. had completed the Rosedale Branch in 1861 an incline tramway had been built from the horizontal drifts of the Hollins Mines in the valley side to the standard-gauge terminus high on Spaunton Moor at Bank Top. The ore was then transported in rope-hauled wagons for a half-mile along this tramway, ascending about 400 ft, to the large kilns erected alongside the sidings of the N.E.R. branch. The ore was tipped into the kilns from above and then 'roasted' to drive off water and carbonic acid gas, a process known as calcination. This reduced the weight of the transported ironstone which resulted in a saving of carriage costs and royalties, although the 'roasting' process involved the use of coal. At first a certain amount of poor coal was obtained from local moorland pits, but later it was all brought up the Ingleby Incline from Co. Durham. Much of the masonry of the kilns still remains at the Bank Top, but the front shutters and other ironwork have been long removed. The line of the tramway to the mines is clearly visible, with a blocked-up road over-bridge near the top of Rosedale Bank. The steep road (1 in 3 in part) up Rosedale Bank was also built by the ironstone company. Until recently the most

impressive relic of the mines was the famous Rosedale Chimney, a landmark for many miles around. This was the chimney of the engine-house for the winding-gear of the incline tramway. Each of the three large low pressure boilers of the Collins standing tube type weighed $2\frac{1}{2}$ tons and all were hauled to the engine house from Pickering by way of the Hutton-le-Hole – Bank Top road by forty horses. In January 1861 "amidst deafening cheers of the spectators" the engines were started. Two of the boilers were later removed to the East Mines by rail. The great height of the Rosedale Chimney is explained by the demand by Mr Darley, the landowner, that the smoke should not upset his grouse! The builder, John Flintoft of Lastingham, is said to have danced on the top upon completion of the task. The chimney was demolished in July 1972.

During the first year of operation a serious accident occured on the Hollins incline tramway. In November 1861 a large number of laden wagons broke loose and were seen rushing downwards with "fearful rapidity". One man was injured but recovered.

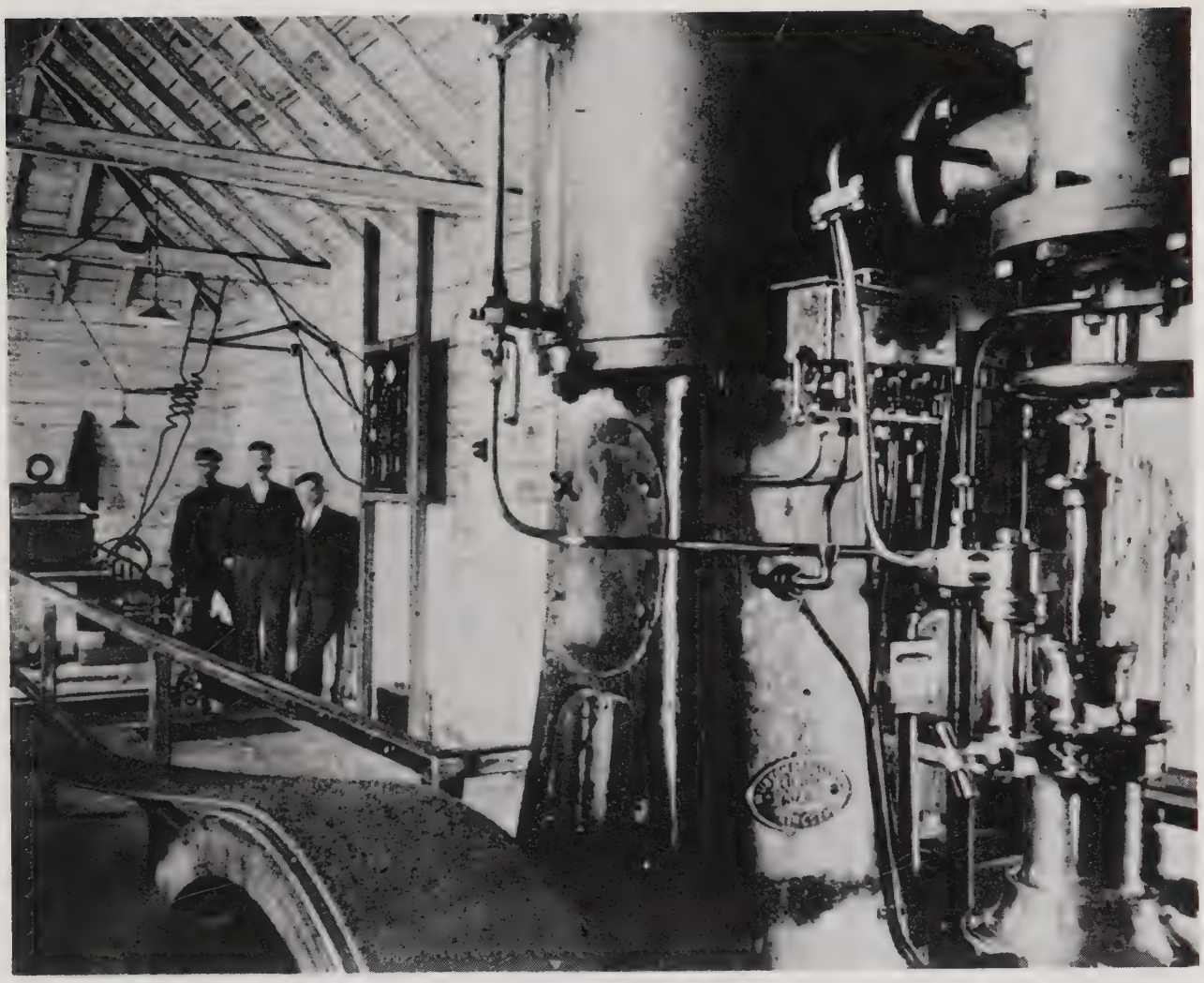
The calcination process produced vast quantities of waste known as calcine dust which was tipped below the kilns. This accumulation was rich in iron oxide, and, as at the East Mines, much of it was removed for processing in Teesside from 1920 onwards.

In the first full year of operation, after the completion of the railway, over 200,000 tons of ore were carried from the West Mines and this figure rose to nearly 300,000 tons in 1864. This was the year when the title of the company was changed to Rosedale & Ferryhill Iron Co. Ltd. At this time 200 men were employed at the West Mines.

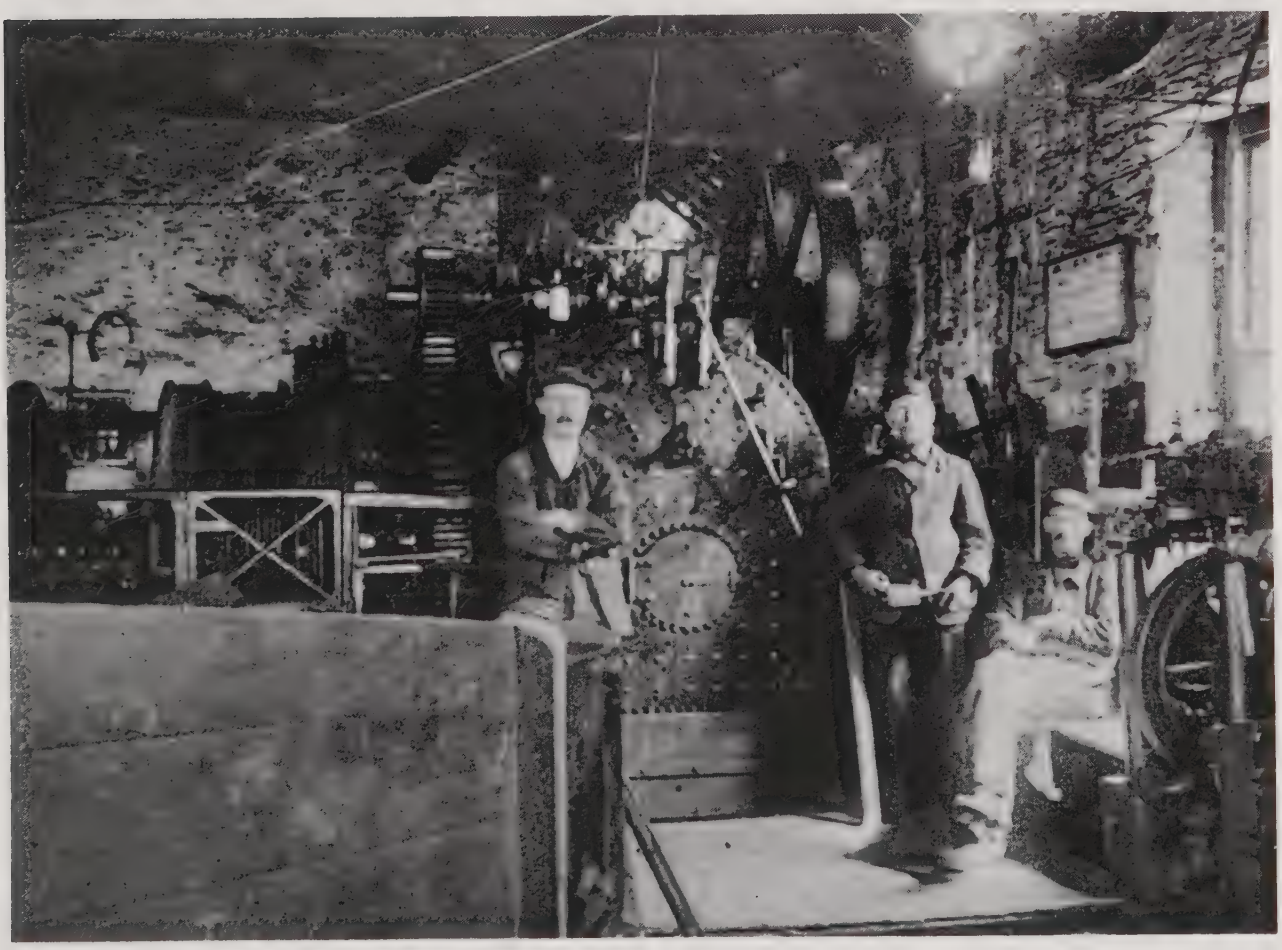
The most valuable ironstone produced at the West Mines was the magnetic ore found in two troughs in the Alum Shale forming an abnormal thickening of the Dogger ironstone. These were known as Kitchen's Deposit and Garbutt's Deposit and were about 70 feet thick in the centre, with an extension into the dale-side of a quarter-mile. The period of maximum production was the years 1872/74 under the management of J. Parkin, but the end was not far ahead. A strike of miners from May 11 to June 22, 1874 brought about a temporary closure but those who were not dismissed are said to have returned to work for less wages. A recession in the iron industry brought the failure of the Rosedale & Ferryhill Iron Co. Ltd. and a further period of closure in March 1879. A new company was formed—the West Rosedale Ironstone Co.—but it only continued working until the final closure of the Hollins Mine in 1885 after a brief life of nearly thirty years. In spite of the richness of the deposits it was the first of the Rosedale mines to be finally abandoned.

SHERIFF'S PIT, ROSEDALE WEST (SE 698962)

The other important ironstone workings on the west side of Rosedale were those known finally as Sheriff's Pit, about 2 miles north-west of the Hollins Mines and near the hamlet of Thorgill. These were originally leased to a Mrs Jane Spink in 1857 but were later worked by the Rosedale & Ferryhill Iron Co. The pit was named after Alexander Clunes Sheriff partner of the mining company. Unlike



VII *East Mines: interior of generator house installed by Carlton Iron Co. in 1900.*



VIII *East Mines: boiler room of generator house.*

IX *Ruins of the "Old Kilns" near Rosedale Goods Station, 1965.*

X *Ruins of the "New Kilns" near High Baring, 1966.*

the other local workings it operated in similar manner to a coalmine, the ore being raised to the surface through a vertical shaft sunk 270 ft alongside the N.E.R. Rosedale Branch. Horizontal drifts were driven into the dale-side at the outcrop above Medd's Farm, Thorgill, at an altitude of about 825 ft, one of which extended to the base of the vertical shaft, a distance of about 1500 ft. This was used by a tramway carrying the ore from a loading-bay established on a terrace at the entrances to the drifts. At the pit-head the ore was tipped directly into N.E.R. wagons without undergoing the calcination process on the spot. As stated above, a trade recession brought about the failure of the Rosedale & Ferryhill Iron Co. and these mines were also closed in March 1879. They were not reopened until 1881.

Sheriff's Pit came under the control of the Carlton Iron Co. Ltd. shortly after the Rosedale Estate passed into the hands of the present owners, the Milburn family, in 1879. Francis J. H. Lascelles became manager and lived in a substantial house by the shaft. Sheriff's Pit continued in operation until 1911 when the difficulties of underground haulage and infiltration of water became too great. The seam of ironstone varied in thickness from about 8 ft at the outcrop to 5 ft where the work was abandoned, but the useable stone gradually got narrower until the working place was only about 80 yards wide when left. There were indications that the ironstone was entirely disappearing. The pit-head gear was removed in the same year as the closure. Today the great open shaft remains but only ruins and foundations of the buildings are visible alongside the track of the N.E.R. Branch.

Traces of a building, the loading-bay and the drift entrances are to be found at the quarries and tips above Medd's Farm. William Champion, who died in 1966 at the age of 97, worked at Sheriff's Pit from boyhood as a blacksmith. He had a small 'sharpening hut' at the loading-bay and a forge near the shaft. His work included the making of horse-shoes and the shoeing of the pit's 32 ponies and the forging and sharpening of picks, axes and hammers. When Sheriff's Pit closed he went to work as head blacksmith at the East Mines, where he has been credited as the mechanical and engineering brains behind the working of the mine.[11]

EAST MINES, ROSEDALE EAST (SE 706989)

The rich deposits of ironstone on the east side of Rosedale appear to have been discovered shortly after those of the west side and working commenced about 1859/60 by the proprietors of the West Mines—the Rosedale Mining Co.—who continued operations until the failure of the company in 1879, by which time the title had changed to the Rosedale & Ferryhill Iron Co. Ltd. The Carlton Iron Co. Ltd then obtained a lease and worked the mines under the managership of F. J. H. Lascelles until 1911, when the company also abandoned operations at Sheriff's Pit. However, the mines were reopened again in the following year by Messrs Lascelles and Shepherd and were worked with profit during the first World War. In 1919 they were taken over by Messrs J. Shepherd and H. Pringle but their days were numbered as production costs rose and competition with low-priced foreign iron ore became acute. The final blow was the General

Strike of 1926, from which time the ironstone mines of Rosedale have never reopened.

The bed of workable stone attained as much as 14 ft in thickness of good quality ironstone, but although a substantial thickness averaging 16 ft was maintained, the quality deteriorated until working became unprofitable. For a short distance a seam of magnetic stone 14 inches thick occurred. Infiltration of water was always a problem and pumps were in constant use. The workings were extensive with horizontal drifts penetrating deeply into the upper valley-side at an altitude of about 925 ft somewhat above the level of the N.E.R. Rosedale Branch East. The drifts possessed a 9 ft headroom and some were 12 ft wide. Open lamps and candles were used at first to provide light, no explosive gas being present, although foul air was a danger and the square squat chimney still standing above the old kilns near Low Baring acted as a ventilator. In 1866, the first full year of operation of the Rosedale East Branch of the N.E.R., over 168,000 tons of ironstone were produced by the East Mines but this figure had doubled in the early 1870s. However, these tonnage figures were only maintained for a few years and under the Carlton Iron Co. production was at a much lower level.

The ore wagons were originally horse-drawn but later a steam boiler brought from the Bank Top engine house was used to provide power for the rope-hauling of the wagons along standard-gauge track from the interior to the 'roasting' kilns alongside the N.E.R. line. The disintegrating masonry of these kilns still stands as an interesting monument to the ironstone industry although all the ironwork has disappeared. The older kilns, sixteen in number, were about a quarter-mile north of Rosedale Goods Station and the later three large kilns nearly $\frac{1}{2}$ mile further north at High Baring. In 1900 an electric generating plant was installed, a remarkable innovation at that early period, especially in view of the remoteness of the mine, and electricity was used for lighting, drilling and haulage. This plant was removed when the Carlton Iron Co. ceased operations in 1911.

In the early years of the East Mines the ironstone outcrop was extensively quarried along the escarpment eastward from the Old Kilns to the Knott Road and then along the western edge of North Dale to the northern end of the hill of Bell Top, a narrow-gauge (3 ft 0 ins.) tramway following the line of the workings. At its maximum extent this tramway would have had a length of about one and a quarter miles. Steam traction was used and the engine shed is said to have been erected at the east side of the loop around Clough Dike to house the two 0 - 4 - 0 ST locomotives 'Rosedale' and 'Emily' purchased in 1873. When the Rosedale & Ferryhill Iron Co. closed down in 1879 these locomotives were sold and left the area. The line maintained a remarkably even gradient through the horizontal series of quarries at an altitude of about 850 ft and most of its terrace-like course can be clearly followed today. Knott Road was carried over the line by a bridge which was long ago replaced by an embankment. The tramway had a short life and may well have been abandoned when the Rosedale & Ferryhill Iron Co. ceased to function.

The calcine dust, which had accumulated below the kilns in vast mounds as a waste product, was found to be of commercial value before the complete closure of the mines and it was removed by Messrs T. W. Ward Ltd. of Sheffield for processing at Middlesbrough between 1920 and 1927. Tramways were constructed from the heaps of dust which were hauled up in tubs to hoppers over the standard-gauge sidings.

BLAKEY MINES (FARNDALE OLD WORKS), FARNDALE EAST (SE682975)

Although the Blakey Mines were not within Rosedale it is permissible to give them passing mention as they were served by the Rosedale Branch of the N.E.R., who put in a spur about three quarters of a mile long from a point just short of Blakey Junction. This spur was connected to the workings by an incline tramway 560 yards long by which the ore was raised about 300 ft. The iron-stone was obtained at first in 1873 by quarrying along the Dogger out-crop for a distance of over quarter of a mile at an altitude of about 925 ft on the east side of Farndale high above the parish church of St. Mary. The tramway continued horizontally along the line of the quarries. Six drifts were opened from these quarries by 1876. The mine was worked by R. Lavery & Co. in the hope of obtaining the valuable magnetic ironstone found at the West Mines, but a miner employed on the site remarked that they produced 'not enough iron to make nails for my boots'. The workings ceased in 1895. It was stated in 1913 that there have been no proved indications that workable ironstone exists in Farndale, so presumably the ore obtained at the Blakey Mines was of inferior quality. The N.E.R. spur was lifted before 1910. Little remains of the mine buildings but traces of the winding house at the top of the incline and a stone building near the bottom of the incline can be found.

Earlier working of ironstone is in evidence in Farndale. The site of a bloomery was found near Oak Crag (SE 679963) in 1966 and bell-pits can be seen near Park Corner on Harland Moor (SE 675927), but the date of these workings remains uncertain.

COAL MINING AROUND ROSEDALE

As already stated the inferior coal obtained from the moorland pits around Rosedale was used at first in the ironstone kilns before Durham coal was brought in by rail. Moor coal has provided fuel locally for several centuries and it is possible that it was used as far back as the Roman Period. Mixed with wood, peat or turf it could be burnt on the open hearth of farms and cottages. It was also carted to the lime-kilns of Cropton and Hutton Common.

The coal workings were in the form of shallow pits whose waste heaps are a familiar feature over large areas of the North York Moors. Most of these appear to have been the result of mining operations during the 18th and 19th centuries when the pits were worked largely on a family basis. The largest group on the moors around Rosedale extends for two miles along Blakey Rigg and includes those around the "Lion Inn" (SE680995) and at Sledge Shoe (SE687977). Coal

was worked on Blakey Rigg until 1920 and during the General Strike of 1926 unemployed ironstone miners from Rosedale re-opened a pit at Rosedale Head (NZ 680017), where there is another large group of 40 to 50 pits near Ralph Cross. A little to the east (NZ686016) is a smaller group of about 20 pits and around Reeking Gill Head (NZ695010) is a large scattered collection of about 50. At West Gill Head (NZ705005) and at the head of Hamer Slack (SE730997) are two more groups of about 20 pits each.[12]

JET WORKINGS IN ROSEDALE

In Britain the area of the North York Moors has been the principal source of jet, which is a form of fossilised wood used for decorative purposes. It is found most plentifully in the Upper Lias shales of which the bed known as Jet Rock is the main source. There is no regular seam of jet but it is found in pieces of various sizes distributed haphazardly through the shale, thus making jet-mining a speculative occupation. Adits were driven into the shale outcrops along the valley sides leaving well marked scars of waste material.

Although jet ornaments were fashionable in prehistoric times, there is no evidence that the mineral was mined until the last two centuries. The earlier source of supply was the sea-shore from Ravenscar to Staithes, where the jet has been washed out of the cliffs. In Victorian times the demand for jet became excessive and for a brief period it was mined extensively in the dales of north-east Yorkshire. But by 1897 jet mining had ceased in the area.

Jet workings in Rosedale were of a scattered nature but there are traces at Dale Head (NZ686003), The Heads, near Hill Cottages (SE705973), School Row (SE711974), above Hobb Farm in Thorgill (SE 716957) and in Northdale (NZ722975) where a particularly rich find was made.

OTHER MINERAL WORKINGS

With adequate supplies of good freestone readily available the early use of stone in building construction is to be expected. Many of the local cruck-framed houses were reconstructed in stone during the period 1650-1780 and many more of the older houses renovated, rebuilt and enlarged during the ironstone mining era. The mine and railway buildings also created a demand for good building-stone in the mid-Victorian period.

Many stone quarries abound on both sides of Rosedale, especially at Heygate Bank (SE734967), Knottside (SE719978), Nab Scar (NZ694000) and on Hobb Crag (SE714954). Other important quarries are to be found on Spaunton Moor where Matt Smith's Quarry (SE745930) supplied stone for the church of Appleton-le-Moors (1863-65).

In the late 16th century, the presence of suitable sand and a supply of timber for fuel encouraged French glass-makers to settle at Allen House (SE745932), near Scugdale, at the south end of Rosedale. The site of their activities was excavated in 1968-69 and the main furnace removed to the Ryedale Folk Museum at Hutton-le-Hole.[13]

XI *East Mines ventilating shaft chimney, 1965.*

XII *T. W. Ward's hopper for loading calcine dust at the "Old Kilns", 1927.*

XIII *Tramway installed by T. W. Ward Ltd. for the removal of calcine waste from the tip at the "Old Kilns", 1927.*

In the second half of the 19th century a clay pit (SE708979) near Rosedale Goods Station provided the raw material for brick-making. Remains of brick kilns are to be found under the turf close to the nearby Brick House (SE706977).[14]

ROSEDALE IN THE MINING ERA

Cottages built for the miners and other employees near the Hollins Mines were known as Low Row and High Row and near the East Mines as Low and High Baring, Florence Terrace, Hill Cottages and School Row. The High Row, Low and High Baring, and most of the Florence Terrace Cottages have been destroyed but the other groups are still inhabited. Other miners lived in the mining company's lodging-house ("The Barracks") near the Hollins Mines, in the village of Rosedale Abbey and in the hamlet of Thorgill, many as lodgers. A large number of the older houses were enlarged and renovated. During the 1870's overcrowding was so acute that it is said that 'beds were never cold' as shift replaced shift. The surrounding villages provided some local labour and men from Hutton-le-Hole, Farndale, Lastingham and Cropton to the south and west and from Castleton to the north found employment in the mines, many walking to and from the workings over rough moorland tracks each day, a formidable task in snow, rain or high winds. In severe weather men are known to have arrived home encased in ice. The winters of 1878/79, 1882/83, 1894/95 and 1916/17 were particularly severe. Snowstorms said to have been of the greatest violence on record swept the moors in the winter of 1894/95, which was one of the coldest ever experienced in England. A party of miners from Sheriff's Pit lost their way in one storm and only reached their homes with great difficulty. Work at the East Mines ceased entirely.[15]

Miners also migrated to Rosedale from other areas, including Ireland and Scotland and even negroes are known to have found their way to this remote valley. The decline in the industry after the first World War brought about a gradual drift of workers to the mines of North Cleveland and Co. Durham. Others remained and obtained work locally in agriculture and forestry. There were those with optimistic hopes of a reopening of the Rosedale mines, especially during the second World War, but these have completely faded with the closing in 1964 of the last ironstone mine (North Skelton) in north-east Yorkshire.

The rise and fall of the Rosedale ironstone industry is reflected in the population figures for the two civil parishes. In 1851, before the mines were working Rosedale East had 373 inhabitants and Rosedale West only 175. When the mines were flourishing in 1871 the population of Rosedale East had increased to the peak figure of 2041 and that of Rosedale West to 798. At the time of the trade recession in 1881 the combined population of the two parishes had slumped to a mere 700. With Sheriff's Pit and the East Mines working again the census of 1891 shows nearly double the 1881 figure. The mining community in Scugdale are said to have moved to Rosedale when the ironstone mine in the parish of Whorlton closed in 1888. At the date of the closure of Sheriff's Pit in

1911 the population was again falling and this decline continued, although in 1931, several years after the final closure of all the mine workings and the dismantling of the railway, the population of the valley was substantially above the 1851 figure. However, by the time of the 1961 census the two parishes possessed little more than half the inhabitants of pre-mining days and only a tenth of the population of the flourishing years of the early 1870s.

The little community known as Rosedale Abbey, around the site of the Cistercian nunnery (there was no "abbey"), remained the only village in the valley. Of the monastic buildings only a fragment of an angle with two buttresses and a spiral staircase survive, but the village possessed the parish church of St. Mary and St. Lawrence (rebuilt 1839), two Methodist chapels, the 'Crown Inn', (since 1958 the 'Milburn Arms'), a mill (rebuilt 1853), a reading room, savings bank, several shops and other tradesmen. To these were added a number of miners' cottages and in 1873 the Rosedale & Ferryhill Iron Co. built a lecture hall with a schoolroom above. The latter still occupies the end of a range of cottages, with three tall round-headed lancets in the gable-end. Owing to a large number of accidents, partly caused by the employment of inexperienced men, the lecture hall was turned into a temporary hospital shortly after it was opened.

In April 1869 an outbreak of typhus in Rosedale killed several and affected many others.

Even in the middle of last century Rosedale was popular with pleasure parties and sportsmen, the inn being well patronised. Contact with the outside world was maintained by the carrier (John Holliday) who went to Pickering three times a week and to Kirkbymoorside twice. After 1861 there was the railway at Bank Top, 500 ft above the village, and from 1865 at Rosedale 'Depot' nearly a mile and three quarters to the north.

Rosedale Abbey is within the civil parish of Rosedale East which also includes the various groups and terraces of cottages near Rosedale 'Depot' and the East Mines. In this locality a Methodist chapel and school were built in 1872 and a shop and a few tradesmen became established.

The parish of Rosedale West possesses no village but includes the cottages and "the company's model lodging house" near the West Mines, the Bank Top cottages and the scattered little community of Thorgill under the crags of the west side. The latter had a grocer and a Methodist chapel and, near the foot of Rosedale Bank, was and still is a public house—the present White Horse Inn. The isolated railway community on the ridge-top at Little Blakey (Blakey Junction) was also within the parish but the inhabitants were unprovided with the normal facilities apart from those supplied by the wayside public-house—the Lion Inn—a half-mile to the north. For supplies and transport they must have relied on the railway.[16]

XIV *Ingleby Incline Foot*, circa *1900*.
Set of four metal-bodied hopper-wagons awaiting ascent with 'passengers' which include two women. On the left is the weighhouse.

XV *Ingleby Incline Foot*, circa *1900. The fate of runaway wagons*

XVI *Ingleby Incline, 1903. Wrecked wagons blocking the incline.*

PART II. THE ROSEDALE RAILWAY

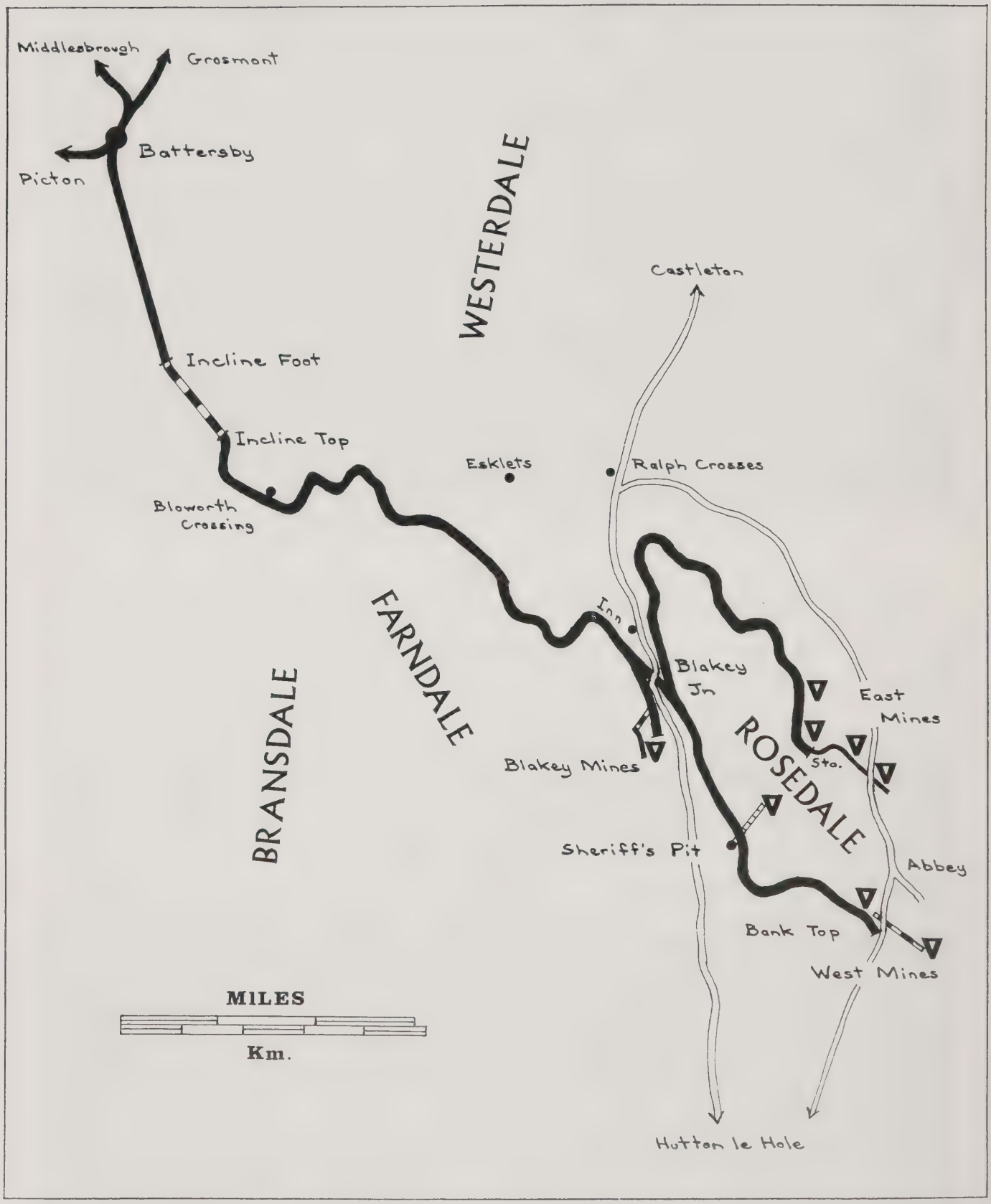
FROM BATTERSBY TO THE INCLINE

In 1858 the North Yorkshire and Cleveland Railway extended its line (already opened to Stokesley in the previous year) from the North Eastern Railway's Northallerton-Stockton line at Picton to Kildale, opening stations at Ingleby, Battersby and Kildale. Battersby Junction (NZ 589073) originally Ingleby Junction, became Battersby Junction in 1878 and this name was shortened to Battersby in 1893. The station is still open to passenger traffic (freight facilities were withdrawn in 1964) and is served by the Middlesbrough-Whitby service. Within a few months of the opening of the Kildale extension the N.Y. & C.R. was absorbed by the North Eastern Railway. In 1864 the N.E.R. opened the Ayton Branch to mineral traffic thus providing a shorter route from Battersby to Middlesbrough, a line still in use by the Middlesbrough-Whitby service.[17]

At the same date as the opening of the extension to Kildale, the Ingleby Ironstone & Freestone Mining Co. opened a three mile narrow gauge line to Battersby from their ironstone mine in the scarp edge of the Cleveland Hills at Rudd Scar. The N.Y. & C.R. made an agreement with the mining company to use this line as part of their proposed branch to West Rosedale, and upon the absorption of the N.Y. & C.R. the scheme was completed by the N.E.R., who opened a single track standard gauge line from Battersby to West Rosedale Bank Top, a distance of 14 miles on March 27, 1861. Owing to narrow seams the Ingleby Mines were soon abandoned although a connecting spur was laid down by the N.E.R.

At Battersby (Track-plan 1) were extensive marshalling sidings and a three-road engine-shed with a turntable. This shed was built in 1875/76, but was not used for locomotives after 1895. For the rest of its life it served a variety of purposes and survived until 1965, although the water-tower still stands. Two terraces of about thirty cottages were built with the engine-shed and these still remain inhabited.[18]

From Battersby the Rosedale Branch extended southwards in an almost direct line and on a rising gradient for $2\frac{1}{2}$ miles to the beginning of the Ingleby Incline at a height of 650 ft above Ordnance Datum. During the first mile after leaving Battersby Station the line crosses three minor roads on the level. At Bank Foot, the last of these crossings, the branch reaches the foot of the steep escarpment of the North York Moors which it follows to the Incline bottom. At a point about $\frac{1}{2}$ mile beyond Bank Foot there was a siding serving building-stone quarries situated near the top of the escarpment, in the former Park



The Rosedale Branch showing position of ironstone mines and connecting tramways.

Plantation, which has now been replanted by the Forestry Commission. The stone was transported down to the siding by an incline tramway over $\frac{1}{2}$ mile long. Extensive jet workings are also visible along the escarpment. Between Bank Foot and the Incline Foot the trackbed of the Rosedale Branch is now a private Forestry Commission road giving access to the cottages. The four railway cottages at the Incline Foot, once abandoned, have been renovated and occupied by forestry workers.

At the bottom of the Ingleby Incline (Track-plan 2) were a series of reception sidings and several small buildings, including a weigh-house of which traces remain. T. W. Brotton, who took several of the photographs reproduced in this report, worked at this weigh-house.

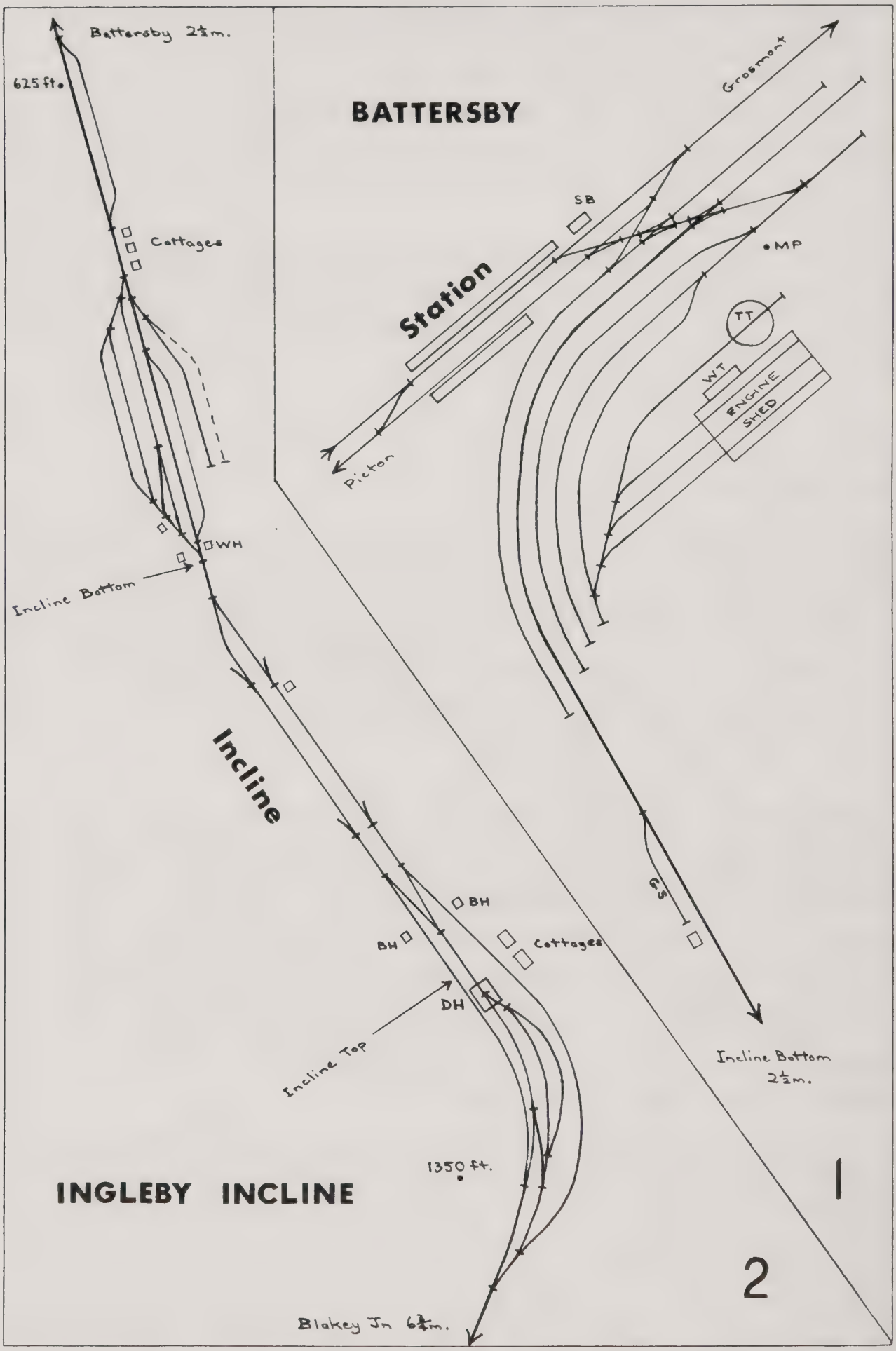
THE INGLEBY INCLINE

The incline installed by the N.E.R. replaced the original incline of the Ingleby Mines which only ascended to the shafts at about 1200 ft O.D. The new incline of 1430 yards in length ascended to the moor top at an altitude of 1370 ft. on a gradient which commenced at 1 in 11 but eventually attained a maximum of 1 in 5. Wagons were hauled up by steel ropes 1650 yards long passing around 14 ft drums, the descending loaded wagons, usually three at a time, drawing up a set of empty wagons. The journey normally took three minutes at a speed of 20 m.p.h.

Except for a short length at the foot, double tracks were in use on the incline, although near the top the two tracks split into three. The two outer tracks passed over steep ramps, which prevented the ascending empties from running back down the incline, and the centre track, passing through the drum-house, accommodated the descending laden wagons. Catch-points were installed near the top and bottom of the incline to direct runaway wagons, a necessary precaution as accidents were not infrequent despite extensive care in operation. One can imagine the speed attained by runaway wagons on a slope of 1 in 5! In addition to several wrecks at the incline foot there are photographic records of disasters on the incline itself and at the top.

On the exposed Greenhow Moor at the Incline Top (NZ609026) with its magnificent view of the Cleveland Plain and beyond, were a series of sidings and a group of railway buildings, which included the prominent stone-built drum-house, workshops and four cottages. One building still stands but the drum-house was dismantled in 1941, although huge blocks of masonry still indicate the site. The incline itself has been re-used in recent years by the Forestry Commission as a useful trackway which has been opened to the public as a footpath.

It was during the construction of the incline in February 1860 that a dispute occurred over the payment of wages and Mr T. Towns, the contractors' agent, was set upon by a group of over 60 labourers "knocked onto the floor bleeding and shouting 'murder' ".



TRACK PLANS 1 & 2. Not to scale. Dated about 1926.
BH Brake-house, DH Drum-house, GS Goods Siding, MP Milepost, TT Turntable, WH Weigh-house, WT Water-tower.

XVII *Ingleby Incline Top.*
The drumhouse with hopper wagons. Railway cottages to right and two brake-houses to left.

XVIII *Ingleby Incline Top, 1928.*
Set of wooden wagons about to descend.

XIX *Ingleby Incline Top, 1903. The scene after an accident.*

FROM INCLINE TOP TO BLAKEY JUNCTION

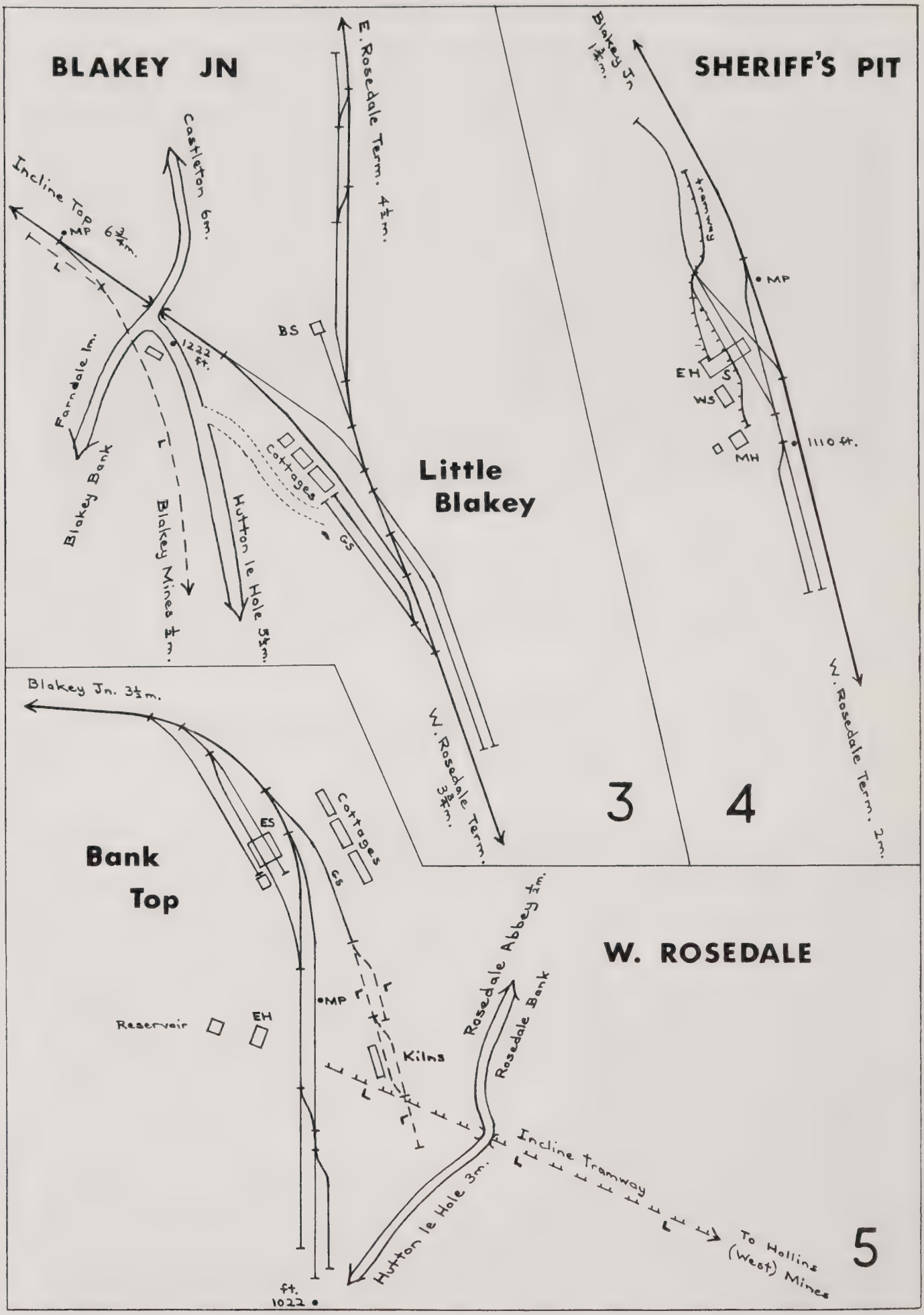
From Incline Top the continuation of the original branch to Rosedale Bank Top, a distance of 11 miles, never drops below an altitude of 1000 ft but keeps to the moor top and avoids the deep steep-sided valleys of Bransdale and Farndale by means of numerous curves. Easy gradients are maintained and expensive viaducts made unnecessary by following the contours and so extending the length of track. Cuttings and embankments are numerous, some of the latter at the dale heads being of substantial proportions.

The first section for a distance of about 4 miles to a point above Esklets in Westerdale, is on a falling gradient. Shortly after leaving the Incline Top the line, crossing the watershed of the North York Moors, passes through a shallow cutting which proved a snow trap and was provided with a hut housing shovels and other equipment. A further half mile brings the track to Bloworth (Blowath) Crossing, the site of a level crossing over the rough road leading from Kirkbymoorside to Stokesley by way of Rudland Rigg and Ingleby Bank. There was a siding here used by farmers and the miller of Bransdale. One of the gates still remained in 1967 but the crossing-keepers' cottages have gone. Although this lonely and lofty highway is little used today it was formerly a short cut followed by the horse-drawn vehicles of the dales folk on the strenuous journey to Stokesley market. Even on a busy day the crossing-keeper was never overworked.

For a distance of about four miles from near Bloworth Slack to the Esklets path the trackbed now forms part of the well-known Lyke Wake walk, a 40 mile tramp across the North York Moors.

Two great loops with cuttings and embankments carry the line eastwards around the head of Farndale and shortly after passing the seventh milepost, above the head of Westerdale, the track crosses a long embankment over the Esklets col and commences a mile-long climb southwards over High Blakey Moor with its many shallow coal pits. A little short of the eighth milepost was a brick-built water tower supplied by two small reservoirs fed by springs on the nearby moor. After a further great northward loop to avoid the crags of Blakey Gill and, with a slight fall and rise, the line arrives at Blakey Junction just beyond its tenth milepost. At the latter point there was for a time a $\frac{3}{4}$m spur extending southwards along the edge of Farndale to serve the Blakey Mines which were working from 1873 to 1895.

At Blakey Junction (SE685988) (Track plan 3) on a narrow section of Blakey Rigg, 1200 ft above sea level, a small colony of seven railwaymen's cottages known as Little Blakey was established near the point where the Castleton-Hutton-le-Hole road crossed the railway cutting by means of an overbridge, the only example on the entire branch. This cutting was another notorious snow trap. Road improvements in 1954, which have converted this moorland byroad into a busy highway, have filled in the bridge arch but a parapet remains. The houses have been demolished although one was still inhabited until 1955. A siding at Blakey Junction was used by farmers of Farndale.



TRACK PLANS 3, 4 & 5. Not to scale. Dated about 1910.
BS Bogie-shed, EH Engine-house, ES Engine-shed, GS Goods siding, L Track lifted before 1910, MH Manager's house, MP Milepost, S Shaft, WS Workshop.

FROM BLAKEY JUNCTION TO BANK TOP

From Blakey Junction the Rosedale East Branch enters the original branch from the north. The latter extends in a south-easterly direction along the western edge of Rosedale on a gradually falling gradient for over 4 miles to stop short of the Rosedale Abbey-Hutton-le-Hole road at Bank Top at an altitude of about 1000 ft. It was at Bank Top that the line was officially opened on March 27, 1861, a special train of wagons bringing the railway directors, engineers and the contractors, Messrs Cail and Towns, to the scene where "the workers were regaled on old English beef, bread and ale". Near the eleventh milepost and the former Sledge Shoe House was a reservoir fed by powerful springs and used to supply locomotives. Sledge Shoe House, now demolished, was occupied by a railwayman in charge of the water supply. At the twelfth milepost were the sidings for Sheriff's Pit, with its array of pit-head buildings. (Track plan 4). After passing Sheriff's Pit the line makes a loop around Thorgill Head and after a further loop along the edge of Hobb Crag the railway approaches Bank Top.

The terminus of the line at Bank Top (SE720951) near the 14th milepost was the site of a small community of railway employees who lived in sixteen cottages at an altitude of 975 ft immediately below the engine-shed. One of the cottages was used as a Youth Hostel from 1933 to 1950 and the last of the engine-drivers, 'Willy' Wood died here in 1963. Four cottages were still occupied in 1964 but all were abandoned at the end of 1966. Recently there has been some re-occupation. The substantial stone-built two-road engine shed was erected in 1861, enlarged in 1863 and demolished in 1937/38 to build Hutton-le-Hole village hall.[19] Sheer legs for raising locomotives were situated at the south end of the shed and a coaling stage and crane were at the opposite end. Water was obtained from a reservoir behind the Rosedale chimney, which was fed by a leat a mile or so in length cut through the peat from springs on Shooting House Hill and Jewel Mere. The court leet of the manor of Spaunton fined I. Hartas & Co. one shilling and sixpence for making the channel to the reservoir and four shillings for the reservoir. The N.E.R. was fined one shilling for the reservoir at Little Blakey, presumably the one near Sledge Shoe House.

At the Bank Top were sidings to the kilns for the removal of the calcined ironstone brought up by an incline tramway from the West or Hollins Mines, half a mile to the south-east. There was also a goods siding for the use of local people in addition to the long storage sidings which extended to the Hutton-le-Hole road. (Track plan 5).

ROSEDALE BRANCH EAST

A single track branch to serve the East Mines was opened for traffic on August 18, 1865 by the N.E.R. although construction of the line may have been commenced by the proprietors of the mines. The entire route of four and three quarter miles follows the valley sides of upper Rosedale on a falling gradient until the track reaches a point on the east side of the dale a mile and three quarters north-west of Rosedale Abbey. Most of the track-bed is visible from the Blakey Rigg road. Entry to the branch from Ingleby Incline involved a

reversal of trains at Blakey Junction. The first mile and a half of the route is northwards towards the head of Rosedale, passing within 300 yards of the "Lion Inn", the isolated public house at an altitude of 1293 ft still serving travellers on Blakey Rigg. Near the first milepost from the junction are the ruins of a brick-built structure formerly supporting a water tank fed by a small nearby reservoir. Shortly after passing this site the construction of the line involved much engineering work, including extensive cuttings, embankments and buttressing, to bring the track down to the level of the mine entrances. The line swings round the dale head, crossing the headwaters of the River Seven and Reeking Gill by embankments pierced by culverts, and continues in a south-easterly direction, with at the third milepost a sharp loop around Nab Scar. Shortly before this loop was a siding to the Nab Scar Quarries which produced good building-stone for a brief period.

Beyond Nab Scar a spur diverges above High Gill to run parallel and at a higher level to the mine buildings at High Baring where it divided into a number of sidings (Track plan 6). The branch continues below along a terrace, passing the linesmen's cottages (Black Houses) and near the fourth milepost, the 'new' roasting kilns and loading stages at High Baring. In less than a further half a mile the branch skirts the 'old' kilns, to reach the terminus at the Rosedale Goods Station at Low Baring, usually known as 'The Depots' (SE708978). Between the "new" and "old" kilns the line was double-tracked.

The line, at an altitude of about 825 ft, is now only about 100 ft above the little community of cottages on the Daleside Road in Upper Rosedale. This contrasts with the position of the Bank Top terminus which stands over 500 ft above the nearby village of Rosedale Abbey.

At the terminus were a long row of cottages, now demolished, a goods shed still used by a farmer, stone-built coal cells which are also still standing, and the 'Depot Cottage' which remains inhabited. Rosedale Goods Station was closed to traffic in 1928.

In the 1870s a 3 ft gauge tramway from the 'old' kilns extended eastwards from the 'Depots' for about one mile towards Bell Top overlooking North Dale, through a horizontally quarried outcrop of ironstone.

OPERATION OF THE LINE

During the peak period of production—1870/77—the Rosedale Branch carried a daily average of 1000 to 1500 tons of iron ore and night working was found necessary to cope with the high volume of traffic. The maximum load per train appears to have been fifteen loaded wagons or thirty empties. Incoming traffic was light, but included coal, foodstuffs, fertilizers, timber and oil, and some farm produce was carried northwards.

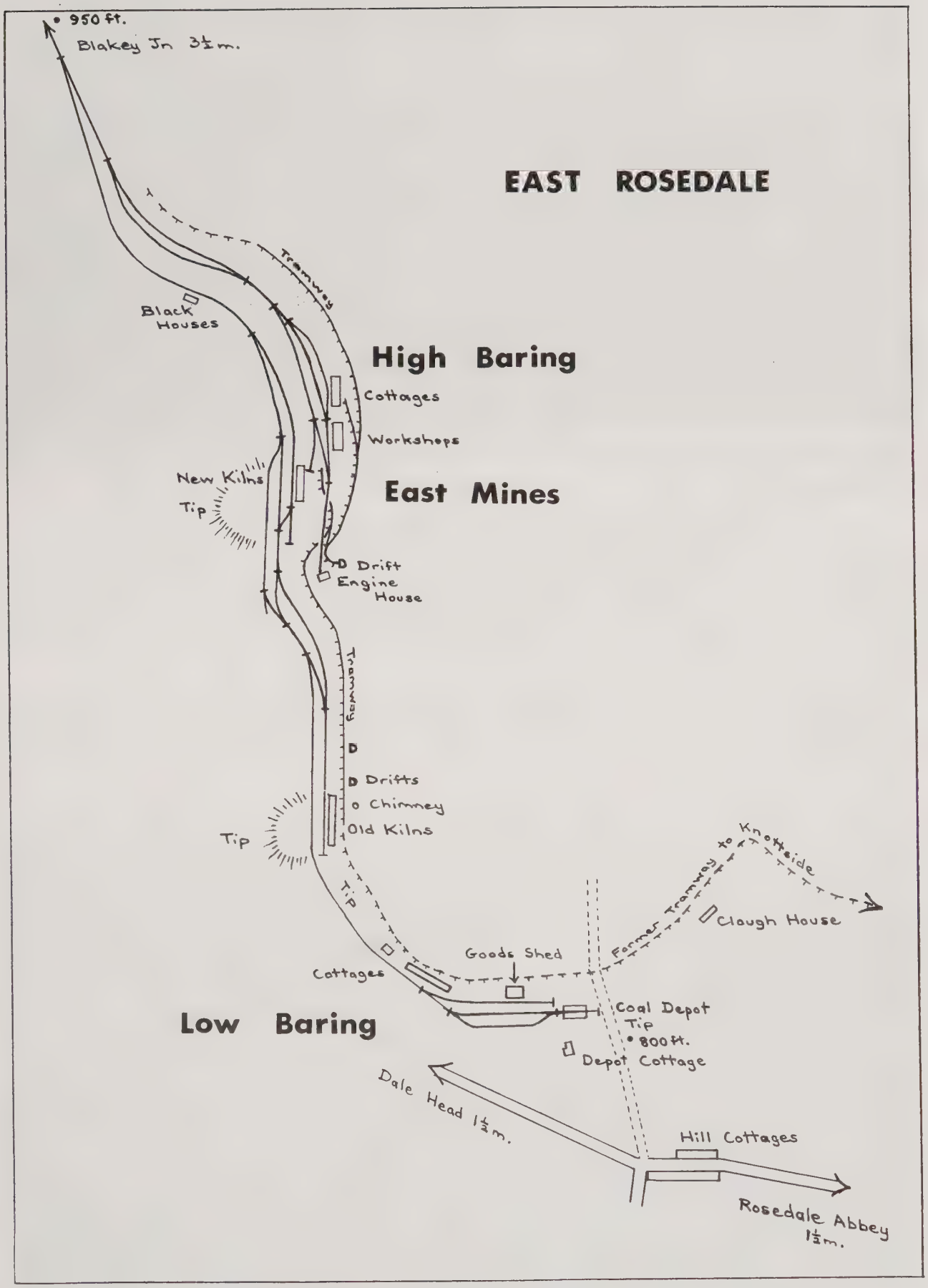
The "roasted" ore was transported direct from the kilns in a hot condition which made metal-bodied wagons necessary. A steel hopper of 8 tons capacity was used. The untreated ore was moved in the well-known N.E.R. wooden-sided 12 ton slipe wagons. Other freight was carried in a variety of open wagons. Vans were not used owing to clearance difficulties at the incline drum-house.

XX *Bloworth Crossing, 1928.*
Southbound train headed by L.N.E.R. Class J24. No. 1860 locomotive.

XXI *Blakey Junction,* circa *1890.*
Train about to leave for Incline Top. Rosedale branch East diverging right. Railway cottages and goods sidings on left.

XXII *Sledge Shoe, 1928.*
Train for Bank Top headed by locomotive No. 1860 passing water-crane.

XXIII *Snow-ploughs in action on the Rosedale Branch in 1900 with Stockton & Darlington '1001' class locomotives.*



TRACK PLAN 6. Not to scale. Dated about 1910.

No passenger coaches were used on the branch, but passengers issued with passes, chiefly railwaymen and members of their families, were carried in the goods brake vans in the section above the Ingleby Incline. They had to walk down the incline and transfer to ordinary passenger trains at Battersby. School children were also carried.[20]

The moorland areas above the incline being virtually uninhabited, except for a meagre population of sheep and grouse, it was found unnecessary to fence the line. Unfortunately the sheep adopted the fatal habit of sleeping on the track, but it was undoubtedly cheaper to compensate the owners than provide fences, particularly as it is unlikely that all the accidents were reported. Sounding the whistle and pelting with coal seem to have been the usual methods employed to dislodge sheep. Grouse and rabbits appear to have also suffered in the vicinity of the line. One engine driver by the name of Jacob Baker was known to stop the train if there was a possibility of catching game. On one occasion a linesman, finding a very dead grouse, set it in view of the line as the train approached. What Jacob said when he dismounted is unprintable! It is of interest to note that Driver Baker spent fifty-one years of his railway service at Rosedale, retiring in 1919.

The line was unsignalled—a simple staff system control being used with a control point at Blakey Junction. A telephone line followed the entire route although it was frequently brought down by gales and snow. It is stated that brake vans and empty wagons were allowed to coast downhill to the two termini from Blakey Junction.

Normally five 0-6-0 tender engines were employed above the incline although in the later years of operation this number was reduced to three. All were housed at the Bank Top shed.

For many years the principal class used was the famous Stockton and Darlington '1001' but these engines were replaced by locomotives of N.E. Class P. At the closure of the branch the engines were Nos. 1860, 1893 & 1950 belonging to N.E. Class P. (L.N.E.R. Class J24), the last of which was lowered down the incline in 1929. During the early years the Battersby Engine Shed housed about nine locomotives, also normally six-coupled tender classes, which were employed between the Incline Foot and Ferryhill, Middlesbrough, etc.

Owing to the difficult task of lowering engines down the incline repairs were undertaken as far as possible at the Bank Top shed. When overhauls became necessary the locomotive's centre wheels were removed at the shed and the engine was towed to the Incline Top. To offset the severe conditions experienced by the crews tender windshields were fitted to all engines and tarpaulins were frequently added. Derailments of rolling stock were overcome by means of lifting jacks and improvisation was often responsible for keeping the traffic moving.

Apart from runaway wagons on the Ingleby Incline few accidents on the Rosedale Branch are on record. In 1867 a locomotive was derailed in a snowstorm. Another locomotive was derailed in 1872 and in 1890 two trains collided on the Blakey Junction-Incline Top section. In all these accidents the crews appear to have escaped injury.

XXIV *West Rosedale Bank Top*, circa *1911.*
Engine shed on left and railway cottages on right. Snow-ploughs on siding with traces of other sidings formerly extending to calcining kilns.

XXV *Bank Top, 1928.*
Locomotive No. 1860 alongside engine-shed with disused calcining kilns in background.

XXVI *Rosedale Goods Station, 1929.*
Locomotive No. 1860 with train alongside row of cottages now demolished.

XXVII *Rosedale Goods Station, 1965. Remains of coal cells.*

LIFE ON THE BRANCH

According to Mr J. E. Featherstone, formerly of Battersby, who was in charge of the Ingleby Incline during the last years of operation, the life of the railway workers and their families living in cottages on the exposed moorland 1200 to 1350 ft above sea level was hard, especially in winter, but they were friendly and happy communities. The families at Incline Top, which received the ironic nickname 'Siberia', were often joined by those from Bloworth Crossing in communal gatherings of a type fast vanishing. The children went to the school near the church in Farndale East by train on Monday mornings. They were joined at Blakey Junction by another group for the long downhill walk to the school. Hampers of food were taken for the five days they were lodged with Farndale folk until their return from Blakey by train on Friday afternoons. An old Farndale resident recently stated that he could count more children coming down Blakey Bank on Monday mornings than the total number at Farndale School today.

Supplies were brought by rail, but a shopping expedition involved an awkward journey by train via Battersby to Stockton, Stokesley or Middlesbrough. The incline had to be walked in both directions. The railwaymen at Bank Top were better placed for facilities, with the village of Rosedale Abbey a little more than half a mile distant, although a return climb of 500 ft up the notoriously steep Rosedale Bank (1 in 3 in part) would have to be faced! However, the village shops, public houses and tradesmen, the church and chapels, and the school were available within a reasonable distance.

The working of the branch in winter was often difficult and dangerous as the moors are notorious for their heavy snowfalls and high winds. From 1888 two snowploughs were stationed at Bank Top and these, coupled to two or three engines and a brake-van or two were employed in keeping the line clear. The Rosedale snowploughs were four-wheeled instead of the normal six-wheeled vehicles built by the N.E.R.

In January 1861, before the line was completed, 40 labourers working on the section above Farndale were caught in a blizzard and took refuge in temporary huts near the Esklets water-tower. The huts were buried under snow and when rescued the men were in a very exhausted condition having used up all the food and fuel. Work was completely suspended for at least three weeks.

The winter of 1878/79 was particularly severe, beginning with a heavy snowfall on 23rd November and ending with a thaw in February. This was followed within a few years by the severe winter of 1882/83 in which the Rosedale Branch was completely blocked by drifts from a single snowstorm on 2nd December. A thaw did not set in until February. The worst winter in the history of the line was that of 1894/95, which was actually one of the coldest ever known in this country. Snowstorms on the North York Moors were the worst on record, eclipsing those of 1878/79. The first struck on the last day of the old year, deep drifts filling the cuttings and bringing traffic to a halt, and by 3rd January even the houses were almost completely buried. A thaw did not begin on the high

ground until March 19th, but it was mid-April before the line was reopened and drifts still remained in cuttings until mid-June. A drought followed this severe weather and grouse were observed drinking from the melting snow of the cuttings. At Sheriff's Pit a huge pile of ironstone awaiting the reopening of the line was not removed before late August when a yard thickness of black snow was found underneath.

During World War I the winter of 1916/17 brought the line to a standstill for five weeks. Heavy and persistent snowfalls resulted in drifts 30 ft deep early in January and the line was not reopened until 12th February. Conditions at Blakey Junction and Incline Top were particularly difficult with engines completely buried. A train returning from the incline was trapped in drifts above Farndale with a woman passenger in the brake van. The crew and passenger were rescued by linesmen the following morning but had to take refuge at Esklets in Westerdale. At several places the snow was still 4 ft deep on 17th April.

Even the line's last winter proved severe, for in February 1929, during the dismantling period, conditions were made difficult by strong freezing winds. According to the engine driver 'Willy' Wood the whistle of a locomotive in steam at Blakey Junction was frozen.

Gales proved an additional hazard and winds have been known to blow wagons over the top of the incline. The worst gale in memory occurred on 11th October 1881 and caused considerable damage in north-east Yorkshire. A 'whirlwind' which accompanied a thunderstorm damaged cottages at Bank Top in 1895.

THE FINAL YEARS

The decline of ironstone production in Rosedale after the first World War brought about a serious reduction of traffic on the branch. Where four or more trains operated each way the number dwindled to one and shortly after the final closure of the mines in 1926 the L.N.E.R. decided to abandon the line.[21] During the 65 years of operation the branch had carried about 10 million tons of ironstone but over half of this tonnage was transported in the first 17 years. However, the waste product of the calcining kilns of the mines continued to be valuable and closure was delayed until this could be removed from the great tips below the kilns. Completion of this task occurred in January 1929 and the contract to dismantle both branches of the railway was given to T. W. Ward Ltd. of Sheffield. The L.N.E.R. transported the salvaged materials down the incline and after the last locomotive (No. 1893) had been lowered on 8th June 1929 the line was declared closed on 13th June.

Reopening of the railway was considered in connection with a proposed reservoir in Farndale for the Kingston upon Hull Corporation but this scheme never materialized.

Although the line has been abandoned for over 40 years the track bed across the moors is in excellent condition and is often used by the vehicles of shooting parties. It provides a splendid route for the walker through the heart of the North York Moors with countless viewpoints at which to linger. Having undertaken such an excursion the visitor will readily understand the natural difficulties and isolation of the area penetrated by the Rosedale Branch over 100 years ago.

ROSEDALE & LASTINGHAM LIGHT RAILWAY

A scheme for the construction of a light railway on the standard gauge of 4 ft $8\frac{1}{2}$ ins for a distance of about 8 miles from a point near Rosedale Abbey to a junction with the N.E.R. Helmsley Branch at Sinnington received some local financial support at the turn of the century. The scheme seems to have been promoted by a Mr F. Pope who was at that time a resident of Lastingham. A Light Railway Order was obtained on July 31, 1900, but nearly two years were to elapse before further steps were taken.

The line was to follow the valley of the River Seven with intermediate stations near Appleton le Moors, at Askew for Lastingham and near Hartoft. Construction of the railway appears to have got as far as a sod-cutting ceremony near Rosedale Abbey on June 14, 1902, at which the squire, Capt. Darley, was present. He was later heard to remark that 'It was the worst champagne he had ever tasted!' The late William Swales of Lastingham (who died in 1967) staked out the proposed route but the scheme got no further.

There was apparently a proposal to connect the light railway with the existing Rosedale West Branch which is astonishing considering the wide difference in altitude. That a further railway to Rosedale should have been contemplated at the period is remarkable as the population of the valley was steadily declining and ironstone production long past its prime. Possibly it was hoped that the scenic attractions of Rosedale would encourage a large number of visitors to the valley.

TABLES

I. CHRONOLOGICAL TABLE

1856	West Mines (Hollins) commenced working
1861	Incline tramway opened from Hollins to Bank Top
1861	Rosedale Branch opened to Bank Top (March 27)
1865	Rosedale Branch East opened to East Mines (Aug. 18)
1873	Blakey Mines commenced working
1873	Peak year for ironstone production in Rosedale
1874	Miners' strike at West Mines
1879	Failure of Rosedale & Ferryhill Iron Co. Ltd.
1879	Closure of all the Rosedale mines (March)
1881	Reopening of Rosedale Mines commenced
1885	Final closure of the West Mines (Hollins)
1894/95	Severe winter; the worst on record during the working of the Rosedale Mines and Railway
1895	Closure of the Blakey Mines (Farndale)
1911	Final closure of Sheriff's Pit. Temporary closure of East Mines
1912	East Mines reopened
1926	General Strike (May 4). Final closure of East Mines and the end of ironstone mining in Rosedale
1929	Official closure of Rosedale Branch (June 13)
1972	Rosedale Chimney demolished (July)

TABLE II

RAILWAY MILEAGE

ROSEDALE BRANCH

0	Milepost 0. Battersby Junction
¼	Greenhow Level-crossing
½	Battersby Siding
¾+	Bank Foot Gatehouse
1	Milepost 1. Near Bank Foot
1¼	Quarry Siding
2	Milepost 2. Near High Farm
2¼	Incline Foot Siding
2½	Incline Foot
3	Milepost 3. Ingleby Incline

3½	Incline Top. Greenhow Moor
4	Milepost 4. Bloworth Slack
4¼+	Bloworth Crossing and Siding
4½	Rudland Rigg
5	Milepost 5. Middle Head, Farndale
6	Milepost 6. Dale Head, Farndale
7	Milepost 7. Above Esklets, Westerdale
7½	Esklets Embankment
7¾+	Esklets Water-tank
8	Milepost 8. Above Hole House, Farndale
9	Milepost 9. High Blakey Moor
9¼	Gill Wath
10	Milepost 10. Blakey Mines (Farndale) Siding
10+	Blakey Rigg. Road overbridge
10¼	Blakey Junction and Goods Siding. Little Blakey
11	Milepost 11. Low Blakey Moor
11+	Sledge Shoe House. Water-tank
12	Milepost 12. Sheriff's Pit
12½	Thorgill Head
13	Milepost 13. Thorgill Bank
13¾+	West Rosedale Engine Shed and Goods Siding. Bank Top
14	Milepost 14
14+	Hollins Mine incline tramway
14¼	Terminus of Rosedale Branch

ROSEDALE BRANCH EAST

0	Blakey Junction
½	Below Blakey Inn
1	Milepost 1. Blakey Ridge
1+	Blakey Water-tank
1½	Rosedale Head
2	Milepost 2. Near Castle Crag
2¼	Reeking Gill
2¾	Nab Scar Quarries Siding
3	Milepost 3. The Nab
3½	East Mines high level siding
3¾	Black Houses
4	Milepost 4. East Mines New Kilns, High Baring
4½	East Mines Old Kilns
4¾	Terminus of Rosedale East Branch. Rosedale Goods Station and Coal Depot. Low Baring.

TABLE III

POPULATION OF ROSEDALE 1851-1971

	Rosedale East	Rosedale West	Total
1851	373	175	558
1861	446	338	784
1871	2041	798	2839
1881	393	309	702
1891	815	549	1364
1901	882	514	1396
1911	774	329	1103
1931	677	285	962
1961	203	83	286
1971	165	60	225

TABLE IV

PRODUCTION OF IRONSTONE AT ROSEDALE 1861-1881[22]

Year	Total Tons	West Mines Tons	East Mines Tons	Remarks
1861	79,786	79,786		
1862	219,123	219,123		
1863	224,889	224,889		
1864	297,579	297,579		
1865	250,000	250,000		
1866	233,382	61,643	168,739	East Mines in operation
1867	178,227			
1868	210,082			
1869	269,595			
1870	317,060			
1871	314,394			
1872	450,350			
1873	560,668			
1874	473,140			
1875	383,914	79,306	292,326	Sheriff's Pit in operation
1876	383,828	117,405	266,422	
1877	347,486	85,685	258,801	
1878	234,150	55,245	178,905	
1879	25,593	6,874	18,718	Mines closed from
1880	Nil			March
1881	6,079			Sheriff's Pit reopened

REFERENCES AND NOTES

(1) For further geological details see:
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G. Barrow: "The Geology of North Cleveland", *Mem. Geol. Surv.* (1888)
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(2) A brief note of this discovery is to be found in *Trans. Scarborough & Dist. Arch. Soc.* for 1965, No. 8, 37-8; also in R. F. Tylecote, "Medieval Bloomeries in the North of England", Vita pro Ferro, 1965, 122. Details will be given in the forthcoming *Research Report*. "The Earthworks on Levisham Moor" to be published by the Scarb. & Dist. Arch. Soc.

(3) "Early English Charters" (ed. C. T. Clay), *Yorks. Arch. Soc. Record Series*, IX, 1952, 126

(4) "The Honour and Forest of Pickering", *North Riding Record Series*, (ed. R. B. Turton), N.S., IV, 1944.

(5) "The Chartulary of Guisborough" (ed. W. Brown), *Surtees Soc.* Vol. 89, 190-1; R. F. Tylecote, 1965, *op. cit.*, 118, Figs. 5 & 6; R. H. Hayes, *Yorks. Arch. Journ.*, 1964, pt. 168, 167, Fig. 2. For a general account see B. Waites, "Medieval Iron Working in Northeast Yorkshire", *Geography*, XLIX, 1964 33-43.

(6) J. Tuke: *General View of the Agriculture of the North Riding of Yorkshire* (London, 1800)

(7) T. Hinderwell: *The History and Antiquities of Scarborough and the Vicinity* (2nd Ed., York, 1811), 327

(8) A building remains at Wrelton, near Pickering, of the Hartas foundry. It produced kitchen ranges and castings for the Rosedale Mines.

(9) Kelly & Co.: *Post Office Directory of Yorkshire*, (London, 1857), 1470. Later editions have also provided information for this report.

(10) W. H. Hudleston: "The Yorkshire Oolites, Part I". *Proc. Geol. Assoc.* III (1874), 283ff.

(11) R. Fairfax-Blakeborough: *Whitby Gazette*, 25 Nov. 1966. William Champion was born at Clough House, near Rosedale Goods Station, one of a family of 23 children.

(12) For an account of 18th century coal-mining in Farndale & Bransdale see A. H. Whitaker in *Ryedale Historian*, No. 4 (1969), 55-63.

(13) A second late 16th cent. glassmakers' furnace has been discovered south of Hutton-le-Hole and excavated in 1971.

(14) A comprehensive list of sites of industrial archaeology (including mines and quarries) in north-east Yorkshire has been published in the *Trans. Scarborough & Dist. Arch. Soc.* Nos. 12, 13 & 14 (1969-71).

(15) Some interesting details of the 1894/95 winter in the Rosedale area are available in the contemporary numbers of *The Malton Messenger*.

(16) Further information on the history of Rosedale can be obtained from the following:
Victoria County History of Yorkshire North Riding, Vol. II, 453ff.
T. Muncaster; *Rosedale, a brief History*, (1937)
R. H. Hayes; *Rosedale: the story of Yorkshire's most beautiful Dale.* (1970)

(17) The following are the principal published sources of information for Part II of this paper:
The Malton Messenger
T. E. Rounthwaite, "The Rosedale Branch", *The Railway Observer*, XXVII, Jan. 1957, 5-7; Feb. 1957, 32-33; March 1957, 60-62, April 1957, 92-94.
W. W. Tomlinson, *The North Eastern Railway, its Rise and Development* (Newcastle, 1914); K. Hoole, *A Regional History of the Railways of Great Britain. IV. North East England* (London, 1965)
K. Hoole, *Railways in Cleveland* (Clapham, 1971)
Ordnance Survey Six-inch maps, various editions.

(18) For further details of this engine-shed and its locomotives see K. Hoole: *North Eastern Locomotive Sheds* (1972), 163-5.

(19) *Ibid.*, 216

(20) Murray's *Handbook for Yorkshire* (London, 1904), 225 states "By permission, which must be obtained from the proprietors of the Rosedale Mine or at Ingleby, passengers are occasionally conveyed on this private line".

(21) In 1923 the N.E.R. became the largest of the components of the London and North Eastern Railway.

(22) The total annual tonnage figures have been published in Fox-Strangways (1892), *op. cit.*, 449. The figures for the individual mines have been supplied by Mr K. Hoole.